

IN THE CLAIMS

Claims 1-9. (Canceled)

10. (New) A method of manufacturing a semiconductor device comprising:
growing spherical or hemispherical grains on a semiconductor film;
diffusing an impurity product to the grains;
removing the impurity product from the semiconductor film using a first cleaner
selected from the group consisting of: 1) hot water, 2) a mixed solution of water,
hydrochloric acid and hydrogen peroxide, and 3) a mixed solution of sulfuric acid and
hydrogen peroxide, wherein the mixed solution of water, hydrochloric acid and hydrogen
peroxide has a ratio of 1:1:8; and

removing native oxide on the semiconductor film using a second cleaner.

11. (New) A method of manufacturing a semiconductor device comprising:
growing spherical or hemispherical grains on a semiconductor film;
diffusing an impurity product to the grains;
removing the impurity product from the semiconductor film using a first cleaner
selected from the group consisting of: 1) hot water, 2) a mixed solution of water,
hydrochloric acid and hydrogen peroxide, and 3) a mixed solution of sulfuric acid and
hydrogen peroxide, wherein the mixed solution of sulfuric acid and hydrogen peroxide has a
ratio of 1:5; and

removing native oxide on the semiconductor film using a second cleaner.